

# 44. PFO-Patent Foramen Ovale

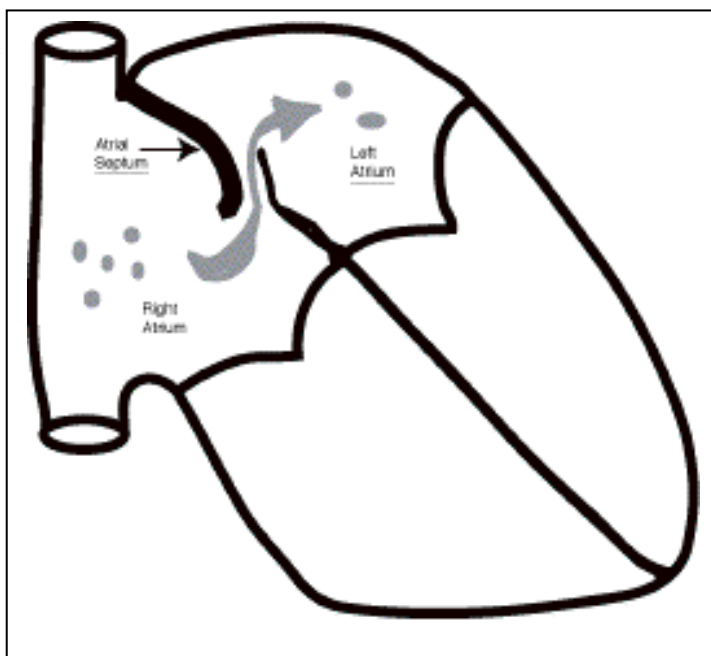
## A. Problem:

1. Patent foramen ovale (PFO) have been associated with cerebral infarction (CI) and transient ischemic attack (TIA) resulting from paradoxical embolism.
2. Preventive strategies must be considered in patients with a previous stroke who have both a patent foramen ovale (PFO) and an atrial septal aneurysm (ASA). Either lesion alone was not found to be at substantial risk for recurrent stroke.
3. PFO's are present in one quarter of the general population.

## B. Indications for Closure

1. Transient Ischemic Attacks with PFO & ASA
  - Recurrent events
  - Failure of oral anticoagulation
  - Instead of oral anticoagulation
2. Peripheral and cardiac emboli
3. Migraines aura?
4. Platypnea-orthodeoxia syndrome
5. Refractory Hypoxia

**The cardiac origin of emboli remains presumptive**, PFO closure is usually reserved for patients without significant risk factor for atherosclerosis.



C. Physical: No findings.

## D. Imaging Studies

1. Trans thoracic Echocardiogram (TTE) with Bubble study: Intravenous agitated saline.
2. Transesophageal Echocardiography (TTE) with or without bubble study
3. Transcranial Doppler (TCD)
4. Intracardiac Echocardiography (ICE) usually done during closure procedure.

## E. Treatment

1. Coumadin (Warfarin), thin out the blood and reduce the risk of a clot
2. Closure Devices:
  - a) "CardioSEAL®" was approved by the FDA in 2000
  - b) Amplatzer PFO Occluder
  - c) Gore-HELEX Septal Occluder
  - d) PFO Star
3. Open-heart surgery with its associated complications is rarely done

